Wastewater Management Systems Technical Focus Group

September 26, 2002

Preliminary Discussion Framework and List of Questions

This list will generate the issues, prompt the data, and direct the discussion of the TFG.

The questions are grouped under three headings :

Background Data, Pertaining to Issues, and Implementation Tools

BACKGROUND DATA

- Where are wastewater management systems (onsite, decentralized, centralized) located in the watershed? Where are NJPDES (commercial and institutional) systems located?

- What is the nature and age of existing systems, i.e., cesspools, seepage pits, disposal fields (trenches & beds), gravity/pump systems, mounds, etc.?

- Are there known "hotspot" areas in the watershed, i.e., plumes that exceed the dilution standard (2 ppm)?
  - How can we integrate plume identification into future Science Office studies to enable these areas to be targeted for potential groundwater remediation demonstration projects?
  - Are existing septic systems adversely impacting Pinelands ecosystems on either a site- specific or regional basis?

- How can "hotspot" areas be addressed (e.g., should new standard systems be allowed in Pinelands Villages? **Should existing ones be replaced?)?** Where are failing septic systems located in the watershed?

- What constitutes a "failing" system? E.g.:
  - NJDEP regs, pre-1990 vs. post-1990 systems; indications of malfunctions as defined by NJ regulations:
    - Contamination of nearby wells or surface waterbodies by sewage or effluent, as indicated by presence of fecal bacteria where the ratio of fecal coliform to fecal strep is four or greater;
    - Ponding of sewage or effluent onto surface of ground;
    - Seepage of sewage or effluent into portions of the building below ground
    - Backup of sewage into the building served not caused by a physical blockage of internal plumbing
    - Any manner of leakage observed from or into septic tanks, connecting pipes, distribution boxes and other components that are not designed to emit sewage or effluent.
  - Chemical changes to surface & groundwater bodies such as pH, specific conductance, nitrate & nitrite N, kjeldahl N, MBAS (foaming/surfactants), P, DO, etc.
  - Systems that are located inappropriately, i.e., too close to surface waterbodies (<50') or do not provide a 4' zone of treatment above the Seasonal High Water Table (SHWT).

PERTAINING TO ISSUES

A. Use Viability

- How can the identification of failing systems and replacement with new advanced systems be encouraged? Who will take the lead to accomplish this? What changes, if any, are needed to create septic management districts with fees for inspection and maintenance?

- How can we identify funding sources (especially grants) to replace failing systems with modern functioning ones, especially alternate technologies? Can funding be obtained to finance demonstration projects? Are funding sources the same or different for residential verses commercial projects? What about funding for community systems that include both existing and new uses?

- Where do opportunities exist for implementing community and other small systems in schools and other institutions? What institutional impediments exist that impede partnerships between schools, etc. and local governments to serve adjacent private development?
- Is groundwater recharge from regional sewage treatment plants desirable?
- What surface and subsurface recharge options are available?

- Who is or should be responsible for enforcement of onsite (individual), decentralized (community), and centralized (regional) wastewater regulations?
- What can be done to ensure voluntary compliance (leaving enforcement as a last resort), i.e., what operational setups work best?
- What other issues do you see in resolving outstanding issues or in new development?

- Are regional Sewage Treatment Plants a viable option in the watershed? What are the obstacles which need to be overcome to bring plants to the Pinelands Villages and Towns and Regional Growth Areas? Are decentralized treatment plants (package onsite plants with groundwater discharge) a viable option to serve existing or proposed residential subdivisions, villages, etc.?

- Please tell us about the Mullica-Elwood school case. For example, how can small-scale facilities be built if only regional MUA's have that authority?

- Is there sufficient funding for planning, engineering and constructing various types of wastewater treatment systems?

- What opportunities exist to employ community wastewater systems within the watershed?
  - Can we encourage the creation of septic system management districts funded by user fees and the regular maintenance of systems conducted by a management entity?
  - Do towns support just the state clean water standard of 10 ppm nitrate or do they actively seek the CMP's 2 ppm standard?

- Given that the Mullica River is a dividing line between local government jurisdictions, how can we ensure that there are appropriate institutional arrangements to foster the various wastewater needs? Are there opportunities to link needs and create partnerships?

- Given that there are nitrogen problems in the headwaters and that it is impractical to separate the effects of non-point sources, agriculture and septic systems, is it justifiable to move ahead with solutions in all of these areas?

- What are your thoughts on solving rural, non-residential septic problems?

- Is there sufficient data to move ahead on conventional septic systems? If not, who should take the lead on gathering the needed data?

- How can we promote incentives for desirable behavior?
- How can we shorten the time from idea to construction?

- How can we address the cash flow problem (high front-end costs, revenues tied to future problematic growth)?

B. Water Quality

- **JOHN BUNNELL:** Are septic systems a source of degradation for streams in the watershed?
  - How can the impacts of new & existing systems on stream water quality be monitored?

- **MIKE GAVIO:** Who should be responsible for monitoring impacts of new & existing systems on stream water quality?

- **LARRY HEPNER:** Can upgrades to existing septic systems translate into the opening of additional shellfishing areas or reduction in the occurrence of algal blooms? What is the positive economic impact of increased shellfish beds?
  - How can we keep abreast of technological change?
  - Given that we need to know the specific nitrate removal efficiencies in a variety of situations, how can we be assured that results obtained at research institutions will translate directly to real life unique uses of these systems?

- **KAREN ERSTFELD:**
  - How much renovation occurs when wastewater moves through soil?
  - By addressing nitrogen removal from wastewater are we adequately dealing with all of the other sources of water quality degradation [i.e., are nitrogen and pathogens the only problems we should be concerned with]?
  - Is the presence of pharmaceuticals and endocrine disrupting chemicals in wastewater effluent something that we should be concerned with in soil dispersal systems or water reuse technologies?

C. Water Supply

- **RICK HOWLETT:** What is the concentration/ proximity of septic systems and other wastewater management facilities to water supply sources?
  - Do new regulations need to be developed to properly site wastewater management systems *vis a vis* their proximity to water supply sources? How would these new regulations be enforced?
  - What are the various ownership, operation and management arrangements for centralized (regional) and decentralized (community) wastewater treatment systems?
  - What are the advantages and disadvantages of each?

- **ELEANOR KRUKOWSKI:** What are options for proposed surface application of highly treated wastewater from large POTWs? (E.g., Ocean Co. MUA Central Plant - golf course

irrigation at proposed development in Berkeley Twp.)

- Is subsurface (injection) of highly treated wastewater to recharge aquifers desirable? If so, how can this be encouraged?

- **DAVID WATSON:** Can recharge from large POTWs work hydraulically? Can recharge work in high water table areas?
  - How can we address the cash flow problem of the high front-end costs associated with feasability studies, permitting, design and construction of new decentralized treatment plants (community package plants) in light of slow and uncertain future growth? (Build it and they may come—maybe!)

D. Ecosystem Health

- **JOHN BUNNELL:** Are septic systems a source of degradation for wildlife, vegetation and/or habitat in the watershed?

- **ELEANOR KRUKOWSKI:**
  - How can non-degradation standards be dealt with?
  - What is DEP doing to ensure that the > 6 unit limitation (2000 gpd from residential units in aggregate) can be effectively implemented?
  - Given the severe drought conditions in recent years, does DEP intend to encourage the reuse of treated wastewater for non-drinking water applications (irrigation, industrial processes, fire protection, wetlands creation, etc.)?
  - Is the recharge of depleted aquifers with highly treated wastewater (via subsurface injection, infiltration basins, absorption fields, etc.) desirable and achievable and if so, what is DEP doing to make it happen?

IMPLEMENTATION TOOLS

- **PETER CASEY:** What Best Management Practices (BMPs) can be employed for on-lot septic systems? How can retrofitting be used?

- **RICK DOVEY:** What opportunities exist for community wastewater systems within watershed?

- **DAVID HENRY:** Can we encourage the creation of septic system management districts funded by use fees and the regular maintenance of systems conducted by a management entity (i.e, MUA, etc.)?

- **PETER CASEY:** How can we educate/inform the public about septic management? (E.g., Perform survey of septage haulers to obtain up-to-date cost info on septic tank pumping)

/WHAT OTHER QUESTIONS SHOULD BE INVESTIGATED BY THIS TFG?